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| APPLICATION NO | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO | CONFIRMATION NO. |
|----------------|-------------|----------------------|--------------------|------------------|
| 09 251,172 | 02 17 1999 | AMMAR DERRAA | MI30-034 | 2938 |

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[REDACTED] EXAMINER

RAMSEY, KENNETH J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2879 | |

DATE MAILED: 04 22 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | | |
|-----------------|------------------|--------------|---------------|
| Application No. | 09/251,172 | Applicant(s) | DERRAA, AMMAR |
| Examiner | Kenneth J Ramsey | Art Unit | 2879 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 March 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 11-27, 32 and 41-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 11-27, 32 and 41-62 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a)
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1 Certified copies of the priority documents have been received.
2 Certified copies of the priority documents have been received in Application No. _____.
3 Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) Interview Summary (PTO-413) Paper No(s) _____
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

Responsive to the Request for Continued Examination

Amendment

1. The amendment filed March 27, 2003 has been entered.

Prior Art Rejections

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 11-27, 32, and 41-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (5,872,019) in view of Hodson et al and Benjamin et al. Lee et al '019 discloses a process for forming a base plate for a field emission display comprising providing a substrate configurable into a monolithic base plate for a field emission display. Lee et al differs from claims 15-17 in that the claimed invention requires the partitioning of each separately addressable region of pixels into plural rows and columns of pixels and plural independent drivers for each region. Lee et al differs from claims 18 – 23 and 32 and 41-47 in that the claimed invention requires the forming of at least one row or column address line with a length or width that address less than all of the pixels in that row or column and by the partitioning of the matrix of pixels into sub-matrices of pixels. Lee et al '019 also differs from claims 24-27, 32 and 41-47 in that those claims require the steps of providing a faceplate supporting areas of luminescent material in operable proximity with the substrate. Hodson et al and Benjamin et al would have suggested to one of ordinary skill in the art to divide the

matrix of pixel electrodes of Lee et al '019 into 4 sub-matrices of plural rows or columns which are independently addressable in order to overcome a previous limit as to the size of the display. In Hodson et al the size limitation was due to technology re either of refresh rates or the inability to provide a monolithic display plate with an area larger than a 10 inch diagonal. Hodson et al discloses tiling 4 or more emitter base plates, independently addressable to provide a display larger in area than a 10 inch diagonal, and yet still have a fast refresh rate. However, the step of providing separate display regions each having independent driver means to increase the refresh rate is clearly not limited to tiled displays but includes monolithic displays such as Lee '019, since for such monolithic areas devoted to video applications which require a faster display refresh rate, Benjamin et al, column 8, lines 10-22, teaches subdividing the monolithic display matrix into independently driven sub-matrices such that for each region of the matrix the row or column lines are no more than 15 cm (about 6 inches) long. Thus, as shown in figure 13 of Benjamin, there are two separately demarcated regions of pixels achieved by forming address rows that are effectively contained within the respective demarcated regions such that less than all (one half) of the pixels of a given row are addressed by a single row address line. Similarly, the row and column lines of Benjamin could both be divided to make a still larger display having a fast refresh rate. Therefore, the teaching of Hodson et al of providing independent means to address 4 separate regions of the emitters to increase the refresh rate is clearly applicable to Lee et al because the monolithic display of Lee et al clearly has utility in video and other applications requiring a faster refresh rate than previously possible with monolithic displays of appreciable

size. Thus, when applying the monolithic display of Lee et al '019 for use in video applications, it would have been obvious to one of ordinary skill in the art to subdivide the matrix of rows and columns into 4 matrix regions of independently addressable rows and columns as taught by Hodson in order to provide a quick refresh rate since as shown by Benjamin et al. motivation to provide independent display regions in a monolithic panel to increase the refresh rate as claimed clearly existed at the time of applicants invention.

4. Claims 11-27, 32 and 41-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (5,872,019) in view of Hodson et al and Benjamin et al as applied to claim 1, further in view of Lee et al (6,326,221). It would have been obvious to one of ordinary skill in the art to provide electrical isolation between the 4 sub-regions of independently addressable top and bottom, right and left sides of pixel rows or columns by masking and etching the unwanted portion to divide a electrically connected region into two electrically isolated regions in view of Lee '221, column 2, lines 60-62. Further more it was well known to likewise pattern the gate electrodes by a photolithography process as taught at column 5, lines 27-30 of Lee '221. The use of an photoresist type mask in a photolithographic process of patterning a blanket layer by etching is of course well known and obvious.

Response to Applicant's Arguments

5. Since Benjamin is not directed to field emission type displays, applicant's argument that Benjamin does not teach or suggest that "at least one of the row or column lines has a length within the matrix which is sufficient to address less than all of

the field emitters which lie in the direction along which the at least one row or column line extends within the matrix" may be correct. However, the examiner responds that Benjamin none the less would have suggested the modification of Lee et al '019 in this manner, since to do so would enable the application of the Lee et al '019 to video and other applications requiring a higher refresh rate than otherwise possible. Thus the teaching of Benjamin of dividing the monolithic plate 3 into plural regions independently addressed by plural driver means to solve the problem of a poor refresh rate in video applications clearly has application to monolithic displays of the type taught by Lee '019; and, it would have been obvious for one of ordinary skill in the art to divide the monolithic baseplate of Lee et al '019 into like regions to enable a fast refresh rate for video and other applications that require a faster refresh rate than otherwise possible on a monolithic display of the same size. Although applicant cites the incorporation of MOSFET's in the display of Lee et al '019, applicant provided no reason why one of ordinary skill would not have been motivated by the prior art to subdivide such a monolithic display into independently addressable regions as claimed in order to achieve higher refresh rates except to state that it would increase costs. However, a display capable of displaying videos has a greater value than one that can't. Applicant's argument that Hodson and Benjamin would only teach one of ordinary skill in the art to divide the plate of Lee et al into a non-monolithic display of separately assembled substrates as in Hodson and thus that the secondary references somehow teach away from the claimed invention is categorically rejected as not supported by the evidence.

6. As noted by the examiner in the first Office action, the disclosed processes of forming the monolithic cathode base plate (or substrate) was well known in the prior art except for the additional step of subdividing the base plate into plural separately addressable regions. Such a further step would have been obvious as evidenced by the patents to Hodson and Benjamin et al. As for the step of forming the conductor patterns by blanket formation of a conductive region and using a mask to etch away unwanted portions to form the conductor pattern, such was a well known process at the time of applicants invention as shown by Lee '221 at column 5, lines 27-30. A masking step in photolithographic process is of course common place since without masking or other means to selectively etch the substrate, the encharts would attack the entire substrate. It is not understood how to form an etched pattern photolithographically except through the use of a photoresist type mask. Thus, the description of forming an etched pattern by photolithography makes obvious the step of using a photoresist as an etchant mask.

7. As to the argument that there is no guidance in the combined references as to which elements should be combined to arrived at the claimed invention, the examiner points out that it would be clearly desirable to increase the refresh rate of the Lee et al patents to allow their use in video applications which Benjamin notes was previously not possible with a display of appreciable size. That is all the guidance needed to enable one of ordinary skill in the art to successfully combine the teachings of the references.

8. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the

grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b).
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Directions for Responses

Any formal response to this communication should be directed to examiner Kenneth Ramsey, Art Unit 2879, and either

faxed to: 703-872-9319;

or mailed to: Box AF
Assistant Commissioner For Patents
Washington, D.C. 20231

Technical inquiries concerning this communication should be directed to Kenneth J. Ramsey, (703) 308-2324 (voice), (703) 746-4832 (fax).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Kenneth J. Ramsey
KENNETH J. RAMSEY
PRIMARY EXAMINER